UNITED STATES SIGNAL SERVICE

MONTHLY WEATHER REVIEW.

VOL. XV. WASHINGTON CITY, JUNE, 1887. No. 6.

INTRODUCTION.

This REVIEW treats generally the meteorological conditions of the United States and Canada for June, 1887, and is based upon reports of regular and voluntary observers of both countries. Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i, on which also appears the distribution of icebergs and field ice reported. In tracing the centres of the paths of these storms, data from the reports of two hundred and twenty-one vessels have been used. Very severe weather was reported off the coast of the United States from the 12th to the 16th, and unusually strong summer gales were experienced over, and to the eastward of, the Banks of Newfoundland from the 15th to the 17th, inclusive. Dense fog prevailed in the trans-Atlantic routes during a considerable portion of the month.

On chart i for this month are traced the paths of ten areas of low pressure, which number is one more than the average for June during the last fourteen years.

The month has been decidedly warmer than the average June over the northern portions of the country from Dakota eastward to the lower lake region. In Florida, along the immediate Gulf coast, and in the northern plateau region, the mean temperature was from 2° to 4° colder than the average. In all other parts of the country the temperature differed but slightly from the June normal.

Large deficiencies in the monthly precipitation are shown over the central valleys and upper lake region, while a marked excess occurs along the Gulf and south Atlantic coasts and in Florida.

The most severe local storms of the month occurred from the 19th to 22d in the middle Atlantic states.

In the preparation of this REVIEW the following data, received up to July 20, 1887, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-three Signal Service stations and twenty-two Canadian stations, as telegraphed to this office; one hundred and seventy-four monthly journals and one hundred and sixty-three monthly means from the former and twenty-two monthly means from the latter; two hundred and sixty-five monthly registers from voluntary observers; sixty monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Alabama, Dakota, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New England, New Jersey, North Carolina, Ohio, Oregon, South Carolina, and Tennessee; and of the Central Pacific Railway Company; trustworthy newspaper extracts, and special reports.

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean pressure for June, 1887, determined from the tri-daily telegraphic observations of the Signal Service, is shown by isobarometric lines on chart ii, from which it will be seen that the pressure was greatest on the north Pacific coast, where the mean for the month at stations in Washington Territory amounted to 30.05. As in the preceding month, the region of low mean pressure embraces the Rocky Mountain districts, but the southern part extends further westward, reaching the central and southern Pacific coasts. The region of least pressure is indicated by the isobar for 29.7, which includes parts of California, Nevada, and Arizona. Over the Rocky Mountain districts and California the barometric means generally range from 29.7 to 29.9. From the one hundredth meridian eastward to the Atlantic coast there is a gradual increase of pressure from 29.9 to 30.0, or slightly above.

As compared with the mean pressure for May, deficiencies are shown over much the greater part of the country, the only exceptions being the north Pacific coast, the upper and central portions of the Mississippi valley, the Ohio Valley, Tennessee, and the east Gulf states, where there is a slight excess, generally less than .03. The deficiencies are greatest over California and the central and southern Rocky Mountain districts, where they range from .10 to .13.

The departures from the normal pressure for the various stations are given in the tables of miscellaneous meteorological data; they are also graphically exhibited on chart iv by lines connecting stations of normal or equal abnormal values. In Washington Territory, and over the country east of the ninety-fifth meridian to the north of the thirty-fifth parallel, the mean pressure for June is above the normal; the departures are less than .05, except in the northern part of the upper lake region, in the Saint Lawrence Valley, New England, and the Canadian Maritime Provinces, where they range from .05 to .13, being greatest over Nova Scotia. In all other districts the mean pressure is below the normal. Along the Gulf coast the deficiencies range from .01 to .05; in the central and southern Rocky Mountain districts, and over the region to the north of Montana, the deficiencies range from .05 to .15.

BAROMETRIC RANGES.

The monthly barometric ranges at the various Signal Service stations are also given in the table of miscellaneous data. The ranges were greatest over New England, the upper lake region, northern slope, northern and middle plateau districts; they were least in the southern districts. The following are some of the extremes:

Greatest.	Inch.	Least.	Inch.
Fort Custer, Mont	1.00	Key West, Fla	0.27
Spokane Falls, Wash	0.98	Brownsville, Tex	0.27
Eastport, Me	0.87	Los Angeles, Cal	0.27
Alpena, Mich	0.85	New Orleans, La	0.28
Poplar River, Mont	0.85	San Diego, Cal	0.28
Boise City, Idaho	0.83	Rio Grande City, Tex	0.29
Mackinaw City, Mich	0.82	Corpus Christi, Tex	0.32